

The Free Brazilian Repository for Open Soil Data (febr)

Alessandro Samuel-Rosa (Federal University of Technology – Paraná)
and about 60 collaborators

The Latin America and the Caribbean
Scientific Data Management Workshop
Brazilian Academy of Sciences, Rio de Janeiro, Brazil
Tuesday 17 April 2018 – Case Studies in Agriculture and Soil Science



MINISTÉRIO DA
EDUCAÇÃO



Free Brazilian Repository for Open Soil Data (febr)

The Latin America and the Caribbean
Scientific Data Management Workshop
Brazilian Academy of Sciences, Rio de Janeiro, Brazil
Tuesday 17 April 2018 – Case Studies in Agriculture and Soil Science



MINISTÉRIO DA
EDUCAÇÃO













Structure

Spreadsheets



Easiness/Familiarity



Individualized
management



Google Drive



Google Sheets

Structure

Spreadsheets

 Easiness/Familiarity

 Individualized management

 Google Drive

 Google Sheets



Data model (tables)



dataset (id)



observations (x, y, t)



layers (z)



metadata (methods)



history (version)

Standards

Metadata schema



Consistent description and identification of datasets based on soil science community and basic government standards



Standards

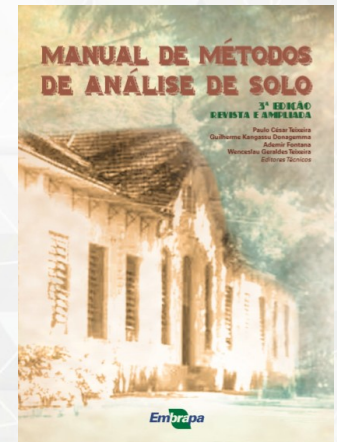
Metadata schema

- Consistent description and identification of datasets based on soil science community and basic government standards



Naming conventions

- Soil variables → column names
 - ph_h2o_25: soil pH determined using a soil:water ratio of 1:2.5
 - ph_kcl_25, ph_kcl_10, ph_cacl2_25



Search

Targeted search
JavaScript library jQuery
www.ufsm.br/febr/search

Global visualization
JavaScript library Leaflet
www.ufsm.br/febr/view

Metadata catalog
Static HTML pages
www.ufsm.br/febr/catalog/



Download

Google Sheets

 XLSX, ODS, PDF, HTML, CSV, and TSV

Download

Google Sheets

 XLSX, ODS, PDF, HTML, CSV, and TSV

R-package febr

 Select dataset, table, variable;
standardization + harmonization

`# Installation`

```
install.packages("febr");library(febr)
```

`# One line to download all data from a dataset`

```
dts <- febr(dataset = "ctb0629", variable = "all")
```



Support

Website + Blog

 Users: www.ufsm.br/febr

Documentation

 Users: febr-team.github.io/febr-package/

 Maintainers: www.ufsm.br/febr/book/

Discussion group

 Users & Maintainers: febr-forum@googlegroups.com

Challenges

What problems do you have in sharing datasets?

46% → Organising data in a presentable, useful way

37% → Unsure about copyright, licensing

33% → Which repository to use?




26% → Lack of time

19% → Costs

Stuart et al. Whitepaper: Practical challenges for researchers in data sharing. Springer Nature, Figshare, 2018. 30 p. DOI: [10.6084/m9.figshare.5975011](https://doi.org/10.6084/m9.figshare.5975011)




Future

Following 3 years:



-  Consolidate project and partnerships
-  Continue data rescue
-  Consolidate standards
-  Start planning the next phase

Future

Following 3 years:

-  Consolidate project and partnerships
-  Continue data rescue
-  Consolidate standards
-  Start planning the next phase

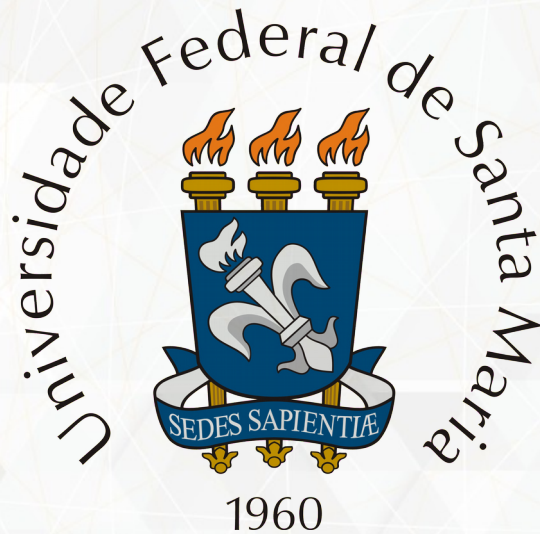
Next phase – two fronts:

1. Soil data rescue
 -  Collaboration (Google Sheets)
2. Soil data sharing
 -  Management system for data storage and distribution (CKAN)

Collaborators

Ricardo Simão Diniz Dalmolin, Paulo Ivonir Gubiani, Stanley Robson de Medeiros Oliveira, Wenceslau Geraldes Teixeira, João Herbert Moreira Viana, Eloi Ribeiro, Carlos Gustavo Tornquist, Lúcia Helena Cunha dos Anjos, José João Lelis Leal de Souza, Marta Vasconcelos Ottoni, Paula Suélen Corrêa de Medeiros, Diego José Gris, Nicolás Augusto Rosin, Jean Michel Moura Bueno, Humberto Gonçalves dos Santos, Eliseu José Weber, Carlos Alberto Flores, Elias Mendes Costa, Ronaldo Pereira de Oliveira, José Maria Filippini Alba, João Chrisóstomo Pedroso Neto, Fabrício de Araújo Pedron, João Henrique Caviglione, Gustavo Souza Valladares, Carmem Sueze Silva Miranda, José Alexandre Melo Demattê, José Marques Júnior, Diego Silva Siqueira, Renato Eleoterio de Aquino, Nelida Elizabet Quiñonez Silvero, Aline Marques Genú, Tiago Broetto, Luciano Campos Cancian, Pablo Miguel, Jovani Zalamena, André Carnieletto Dotto, Jaime Antonio de Almeida, José Miguel Reichert, Gustavo Ribas Curcio, Leonardo Santos Collier, Waldir de Carvalho Junior, Ademir Fontana, Aline Pacobahyba de Oliveira, Eduardo Saldanha Vogelmann, Fábio Joel Kochem Mallmann, Gustavo de Mattos Vasques, Igo Fernando Lepsch, Jessé Rodrigo Fink, João Carlos Ker, Leandro Souza da Silva, Pedro Luiz de Freitas, Wanderlei Bieluczyk, Tales Tiecher

Partners



FUNDAÇÃO



The Free Brazilian Repository for Open Soil Data (febr)

alessandrrosa@utfpr.edu.br

www.ufsm.br/febr/

febr-forum@googlegroups.com

The Latin America and the Caribbean
Scientific Data Management Workshop
Brazilian Academy of Sciences, Rio de Janeiro, Brazil
Tuesday 17 April 2018 – Case Studies in Agriculture and Soil Science



MINISTÉRIO DA
EDUCAÇÃO

